

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/GB98/03796

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01P3/68 G01S5/16 G06T7/00 G06T7/20 A63B69/36
A63B43/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01P G01S G06T A63B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2001/023209 A1 (YAMAMOTO AKIO) 20 September 2001 (2001-09-20) paragraph '0054! - paragraph '0066! ---	1-6
Y	WO 02 35904 A (NIEDERNDORFER FRIEDRICH ; ABATEC ELECTRONIC AG (AT)) 10 May 2002 (2002-05-10) page 1, paragraph 4 - page 3, paragraph 1 page 5, paragraph 2 - page 5, paragraph 3 page 14, paragraph 3 - page 18, last paragraph ---	1-6
Y	US 5 471 383 A (DAYS CHARLES ET AL) 28 November 1995 (1995-11-28) the whole document --- -/--	1-6

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

Z document member of the same patent family

Date of the actual completion of the international search

12 December 2003

Date of mailing of the international search report

22/12/2003

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INTERNATIONAL SEARCH REPORT

Internal Application No

PCT/GT/03796

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6 042 483 A (KATAYAMA SHU) 28 March 2000 (2000-03-28) column 4, paragraph 3 -column 5, paragraph 2; figures 4,5 ---	1-6
Y	US 2002/022531 A1 (KATAYAMA SHU) 21 February 2002 (2002-02-21) paragraph '0036! - paragraph '0041!; figure 4 ---	1-6
A	GB 2 166 920 A (WILD HEERBRUGG AG) 14 May 1986 (1986-05-14) page 2, line 102 -page 3, line 11 -----	1

INTERNATIONAL SEARCH REPORT

International application No.
GB 03/03796

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.: 7-47
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 7-47

The subject matter of claims 7-47 relates to features which do not appear to define an apparatus or method to an extent that the invention for which protection is sought can be fully understood or reliably reproduced.

Independent claim 7 relates to a computer program with "means to determine the orientation". The means are not further defined. Reference is made to a projectile, which as such cannot be part of the claimed computer program. The wording appears to relate to the desired result, not to the features required to achieve it.

Independent claim 9 relates to a "method of determining the placement of orientation identifiers". Several of the terms used in the claim are not defined. What is an "orientation identifier"? How can the "uniqueness" of a configuration of such identifiers be determined? How is "viewable" defined? How are the "different orientations" defined, with regard to which reference, which and how many of such orientations should be tested? How can the set of identifiers be "simplified"? How and when should the method be terminated?

Additionally, the subject matter according to claim 9 seems to extend far beyond the scope of the examples given in the description.

It is also doubtful whether the claimed subject matter merely relates to an algorithm, and whether there is a common inventive concept linking such an identifier placement method with a projectile flight measurement method.

Independent claim 33 relates to a "minimal set of orientation identifiers" having a "unique configuration for every orientation from any fixed perspective". This claim defines the invention in terms of the object to be achieved, rather than in ascertainable technical features. How should someone verify that a set of orientation identifiers meets the "minimal set" condition?

Claim 39 relates to a "method of marking", defined by "applying an appropriate algorithm".

Also this claim defines the subject matter in terms of the object to be achieved, and not by the technical features required to arrive at the desired result.

Claim 47 makes reference to the marking methods, and therefore could be regarded as a dependent claim. However, it defines the system in terms of a processing means "being cognisant of the essentials of the marking method", which is no ascertainable technical feature, and does not specify the essential features required to derive velocity and spin on the basis of a defined set of markings.

It is noted that also the dependent claims do not appear to identify the invention to be protected in a better way.

The requirement of verifying that a set of identifiers is unique "for

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

every orientation and from any perspective" appears to involve an infinite number of sub-calculations.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Internal Application No
PCT/GI/03796

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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			AU 1599302 A	15-05-2002
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